

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
26 April 2001 (26.04.2001)

PCT

(10) International Publication Number
WO 01/29185 A1(51) International Patent Classification⁷: **C12N 1/20**

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(21) International Application Number: PCT/KR00/01183

(22) International Filing Date: 19 October 2000 (19.10.2000)

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(25) Filing Language: English

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(26) Publication Language: English

(30) Priority Data:
1999/45302 19 October 1999 (19.10.1999) **KR**(71) Applicants (for all designated States except US): **KOREA RESEARCH INSTITUTE OF BIOSCIENCE AND BIOTECHNOLOGY** [KR/KR]; 52, Oun-dong, Yusong-gu, Taejon 305-333 (KR). **REALBIOTECH, LTD.** [KR/KR]; BVC Room #102, KRIBB, 52, Oun-dong, Yusong-gu, Taejon 305-333 (KR).

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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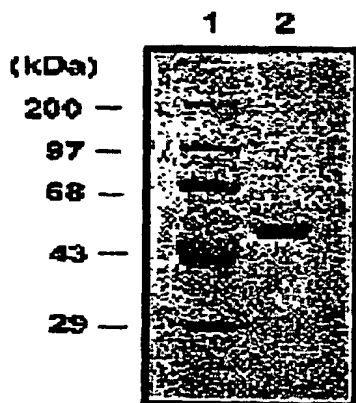
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Published:

- With international search report.
- Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ENZYMATIC PRODUCTION OF DIFRUCTOSE DIANHYDRIDE IV FROM SUCROSE AND RELEVANT ENZYMES AND GENES CODING FOR THEM



(57) Abstract: Disclosed is the production of difructose dianhydride IV from sugar. A sugar solution is subjected to reaction at room temperature or lower in an acidic buffer of pH 3.0-7.0 in the presence of a levansucrase derived from *Z. mobilis* to produce levan. The levansucrase is prepared by culturing *E. coli* BL21 (DE3)/pEL12 (KCTC 8661), harvesting and homogenizing the cells, and isolating levansucrase from the cell homogenate. Levan is purified from the reaction solution and subjected to reaction at 25-50 °C for 3-10 hours in an acidic buffer of pH 3.0-7.0 in the presence of a levan fructotransferase to produce difructose dianhydride IV. The levan fructotransferase is obtained from *E. coli* JUD81 (KCTC 0877BP). Also, disclosed are a gene coding for the levan fructotransferase and an expression vector pUDAF81 carrying the gene.

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